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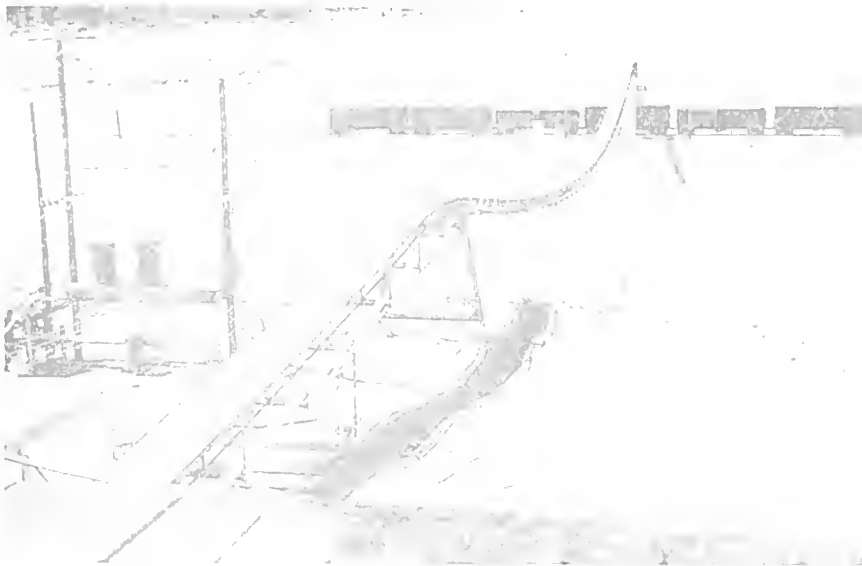
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Page 1

Zonolite--World's Largest Vermiculite Producer

Few Montanans know that the world's largest vermiculite operation is from a solid mountain of the material—"Vermiculite Mountain"—seven miles northeast of Libby.



The special conveyor Zonolite has built across the Kootenai River to the Great Northern tracks.

Operator of the mine and mill is the Zonolite Company, a Montana corporation capitalized at \$1.2 million with headquarters in Chicago. The company has been mining at Libby since 1923, and is the second largest employer in the Libby area (after L. Neils Lumber Company). Employment runs about 110 the year around and the payroll is \$600,000 per year.

Largest Use: Insulation

Vermiculite is a form of mica, and was termed "rotten mica" by old prospectors. The mineral has many uses, largest of which is as a loose fill insulation. A size with smaller particles is used as lightweight aggregate for concrete. Mixed with plaster, it is used in place of sand for walls and ceilings. Other representative uses include: soil and fertilizer conditioner; chicken litter; and insulation for hot ingots shipped from a steel mill.

The company's research department in Chicago is constantly investigating new uses for the mineral. For instance, a new insulation and lightweight aggregate combining wood pulp and vermiculite has been developed. Since vermiculite sparkles, it is being used as a decorative additive to polyethylene tile.

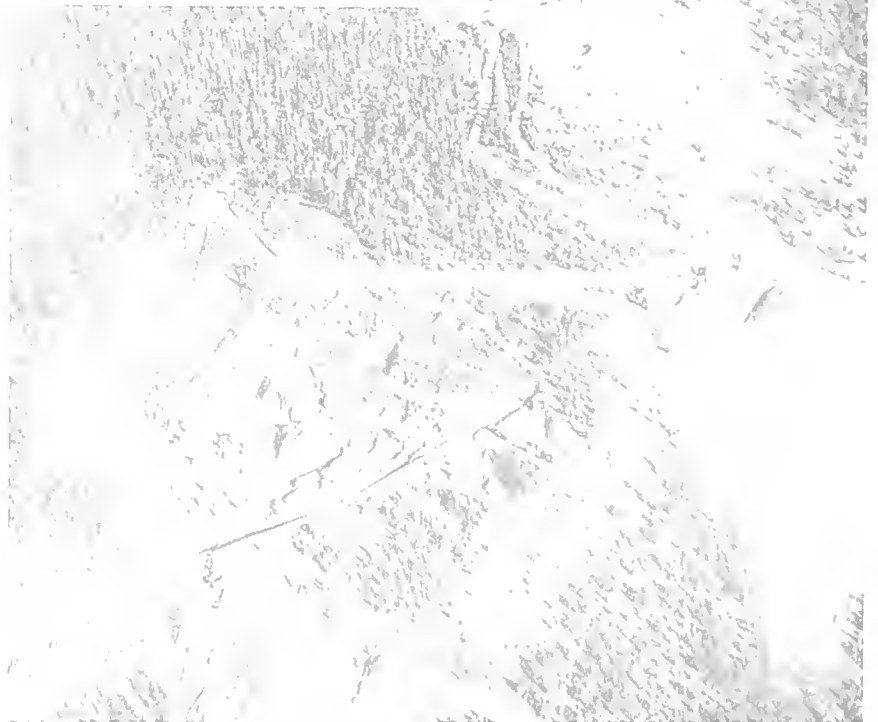
Open Pit

"Vermiculite Mountain" is a 1000-foot hill with a rounded top. The entire top of the hill is terraced into 20-foot layers, from which the ore is mined by open-pit method. Zonolite is gradually mining down through the mountain. Company officials say they don't know how deep the deposit runs, but they have staked out a claim to last 100 years.

Pit cut mining rate is about 800 tons of concentrate per day. Only 7 per cent of the mined ore ends up as vermiculite ore concentrate.

A vermiculite concentrate from the Libby operation is shipped in bulk form

to 40 processing plants all over North America. The only such plant in Montana is the Robinson Insulation Company in Great Falls. At these plants the loose ore concentrate is put through 2000-furnaces. This heat treatment expands the material to approximately 12 times its original size. The material is then



A view of "Vermiculite Mountain" from which the Zonolite Company mines about 100,000 tons of ore per month. Note the series of open-pit terraces in upper right, and the mill in the lower left. The mill processes about 500 tons of vermiculite per day.



All Zonolite mining operations are open-pit.

cooled and packaged. Zonolite's only mine other than the one at Libby is at Traveler's Rest, South Carolina, and is a much smaller operation.

Uses With Montana Products

The company wants to find new uses for vermiculite in Montana. It is especially interested in new products arising from combining vermiculite with other materials, such as clay, straw, wood products, and concrete.

Montana should be proud of its existing industry. If you're passing through the Libby area, make a point of touring the Zonolite vermiculite operation. You won't regret it.

State Has Significant Economic Growth

Montana is growing industrially.

According to figures recently released by the U. S. Bureau of Census, Value Added by Manufacture increased 72.0 per cent between 1954 and 1956 in Montana. During the same period, Value Added increased by 35.8 per cent in the other seven Mountain States, and by 19.5 per cent in the United States as a whole.

Value Added by Manufacture is defined as "value of manufactured products shipped (excluding resales) less the cost of materials, supplies, fuel, electric energy, and contract work." It is considered an excellent indicator of economic activity.

Value Added by Manufacture in Montana amounted to \$141,234,000 in 1954, and \$242,701,000 in 1956. The 1954 figures are from the 1954 Census of Manufactures, and the 1956 figures from a representative sample of manufacturing establishments.

Lumbering Still Tops

Lumber and wood products continues to be the largest type of manufacturing activity in Montana, accounting for over a fourth of the Value Added, and nearly 40 per cent of the employment. Lumber and wood products includes logging camps; saw and planing mills; veneer, lath, shingle, and plywood mills; millwork and wood preserving plants; and establishments manufacturing certain finished wood articles. In Montana, the industry is based chiefly on the production of lumber. An excellent summary of the state's lumber industry is contained in the November, 1957, issue of "Montana Business Review," available free from the Bureau of Business and Economic Research at Montana State University, Missoula.

Other significant manufacturing activities in Montana include smelting and refining of nonferrous metals (copper, lead, zinc, aluminum), sugar beet refining, and petroleum refining. Manufacture of machinery and consumer goods is relatively unimportant.

Consumer Goods Represent Potential

Expansion of the resource-oriented manufacturing activities, such as those already here, represents the best potential for Montana. However, we should not ignore the opportunity for making other products to serve growing Montana and Western markets.

Joint sponsorship of a comprehensive mineral exploration and geological mapping project in Flathead, Lake, and Lincoln counties in cooperation with the Montana Bureau of Mines and Geology is being undertaken by the Great Northern Railway and Pacific Power & Light companies. Goal of the five-year program is the location of mineral deposits and other raw materials that can be developed by industry to help stimulate the expansion of the economy of western Montana communities. A Bureau field office has been established in Kalispell, from which a staff of geologists will direct the project. A free minerals identification service will be offered there.

GOOD MEMBERS IMPORTANT TO LOCAL PLANNING BOARDS

Local governments should make sure competent, hard-working members are appointed to city-county planning boards.

Probably nothing is so important in the initial stages of planning as appointing members who will stand up for planning once the master plan is completed, and who are willing to devote some time and effort toward getting a factual plan.

Herbert Smith, Executive Director of Community Planning Associates, Princeton, New Jersey, in the February, 1958, issue of "American City Magazine" says almost anyone of better than average intelligence who is willing to really try to do a job, is capable of being a good planning board member.

However, Smith lists five types to watch out for:

- 1. THE POLITICALLY AMBITIOUS—always anxious to please everybody.
- 2. THE SELF-STYLED EXPERT—he knew it all before, and he certainly isn't going to learn now.
- 3. THE VESTED INTERESTED PERSON—he may know more about road building than anyone in the state, but if he is selling black-top to developers locally, the very potential of criticism is dangerous.
- 4. THE BMIC—as the big man in the community, he will be too busy to

do the job right and will want to influence too many decisions.

- 5. THE LEGAL EAGLE—this doesn't mean every lawyer by any means, but it does mean the one that thinks planning and zoning are just legal matters, not to be understood by the layman.

Chairman Is Sparkplug

Smith also emphasizes the importance of the chairman. "No agency goes without a sparkplug. The chairman is the heartbeat of the board and has a bigger responsibility in the planning function than in most others. It isn't simply a matter of presiding at one meeting a month and keeping everybody happy. It's setting the pace for program and progress; it's making certain the interests of the entire community are represented; it's needling the politicians for money and support; and it's a thousand things of equal importance."

When your city council and county commissioners set up a planning board, as so many have done in Montana, they should be told of the importance of appointing effective, conscientious members.

"It is better to have a board full of uninformed, but sincere citizens than to have a theoretical high level board not interested or too busy to do the job."

CHECKLIST ON NEED FOR PLANNING

IS YOUR TOWN LIKE THIS?

- _____ There is a mixture of houses and shacks in residential areas, and this condition discourages good construction and keeps residential assessments low.
- _____ The downtown area is characterized by gaps and by a variety of building setbacks.
- _____ There is no public open space suitable for a park, even though there is a lot of vacant land scattered through town.
- _____ The street system makes little distinction between main traveled streets and residential streets (trucks passing in front of your house).
- _____ No large subdivision carefully planned has been developed—only a series of small, uncoordinated developments.
- _____ Highways leading into town are lined with unsightly junkyards and other businesses which do not have to be on the highway, and which do not contribute to the town's beauty.
- _____ New subdivisions are without adequate water or sewers, and there is no immediate prospect of good service.
- _____ It is nearly impossible to find a parking spot in or near the business district.
- _____ New subdivisions have streets which are uncoordinated with the town's existing street pattern.
- _____ Children have to cross heavily traveled streets going to and from school.
- _____ Everybody complains that taxes are too high, but nobody seems to know the reason why.
- _____ There is no established procedure for submission and approval of new subdivisions.
- _____ Areas near railroads and close to the highway which are suitable for industrial use are not protected against possible encroachment by residences.

These conditions are capable of solution. Urban planning is the means. Montana cities are fortunate in that they can legally plan across city limits. Make sure your city has an official city-county planning board.

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